Nokia Customer Care
NHL-12 Series Transceivers

4 - Service Tools

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1. List of Recommended Service Tools

Type	Short Description	Code
MJ-13	Module repair jig	0770666
SF-8	POS flash adapter to be used with FLS-4S / FPS-8 flash adapter	0770665
DA-9	Docking station adapter for JBV-1.	0770663
JBV-1	Flash/Test docking station with generic data & power interfaces	0770298
RJ-11	Soldering jig	0770667
MJS-76	LGA re-work jig	0770417
FPS-8	Flash prommer to be used with SF-20 or JBV-1 plus product specific adapter.Sales pack includes: FPS-8 Prommer, FPS-8 SW activation & installation instr., FPS-8 activation sheet, power supply ACF-8, AXS-4 service cable (2x 9 pol. Sub-D), AXP-8 Bi-directional printer cable	0080321
FLS-4S	POS flash prommer for US incl. ACF-8 power supply	0080543
FPS-8C	8 x parallel flash prommer box	0080396
PKD-1	Software security dongle for service SW	0750018
DAU-9S	Serial data cable 9 pole Sub-D f <=> 8 pole modular connector	0730108
XCS-4	Modular cable for e.g. connection between FPS-8 and SF-20.	0730178
FLC-2	Power supply cable, Banana connectors to 3,5 mm DC plug, 1,2 meters	0730185
PCS-1	Power cable for FPS-8 with 2 x Banana connectors to 5,5 mm DC plug.	0730012
XRF-1	RF cable	0730085
SCB-3	DC cable	0730114
JBT-9	Bluetooth test & interface box	0081490
ACP-8E	Charger for JBT-9 Output: 5.3V DC, 500 mA; Europe. Version	0675195
ACP-8U	Charger for JBT-9 Output: 5.3V DC, 500 mA; US. Version	0675196
AXS-4	D-Sub 9 to D-Sub 9 Serial cable with length of 2 meters	0730090
SRT-6	Opening tool	0770431
AXS-4	Serial cable 9 pol. Sub-D (part of FPS-8 sales package)	0730090
AXP-8	Parallel bi-directional printer cable (part of FPS-8 sales package)	0730298
XRT-11	Camera removal tool	0770527
SES-3	LGA re-work stencil	4350383
XRS-11	RF cable	0730265

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Type	Short Description	Code
SA-5	RF adapter	0770664
CA-28DS	Service data cable, XCS-1 with USB lines connected	0730319
ACF-8	Universal power supply	0680032

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2. Service Tools and Requirements

Service requirements

Supported operating systems

- Windows 2000 (service pack 2)
- Windows XP (service pack 1)

Hardware requirements

Minimum

- Processor 233 MHz, RAM memory 64 MB, Disk space 50-100 MB.

Recommended for Windows 2000

- Processor 700 MHz, RAM memory 512 MB, Disk space 50-100 MB.

Service software

The service software used is called Phoenix. The Phoenix service software requires a 32-bit operating system and is not compatible with Windows versions 3.X. For installation and user instructions, please refer to Chapter 3 of this service manual.

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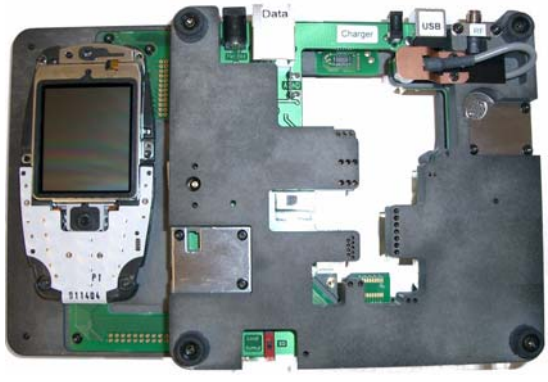
Service Tools

The following table describes the service tools, which are used to test, tune and calibrate the NHL-12 phone. For user instructions and procedures, please refer to Chapter 3 of this service manual.

Type / Code	Description	Picture
JBV-1 0770298 DA-9 0770663	The JBV-1 docking station has been designed for calibration and software update use. The DA-9 docking station adapter makes signal connections to the phone. JBV-1 and DA-9 are used as one unit. JBV-1 main electric functions are: - adjustable VBATT calibration voltage, current measurement limit voltage"VCHAR", current measurement calibration current "ICHAR". - adjustable ADC calibration voltage via BTEMP and BSI signal. - BTEMP and BSI calibration resistor. - Signals from FBUS to the phone via parallel jig - Control via FBUS or USB. - Flash OK/FAIL indication. In calibration mode, JBV-1 is powered by an external power supply 11-16V DC. In flashing mode, power for the phone can be taken from FPS-8 or external power supply 11-16V DC.	JBV-1: DA-9
MJ-13 0770666	Module jig MJ-13 is designed for HL9 module testing. It can be used for flashing and RF-, battery-, system-, radio- and SIM reader testing.	

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RJ-11 0770667	RJ-11 soldering jig is used for soldering and as a rework jig for HL9 module.	
SF-8 0770665	SF-8 POS flash adapter is used in POS (Point of Sales) environment for software updating. It provides controlled supply voltage and necessary connections between the phone and the flash prommer. It substitutes for the phone's standard battery during the software update.	
ACF-8 0680032	ACF-8 universal power supply is used to power FPS-8. ACF-8 has 6V DC and 2.1A output.	

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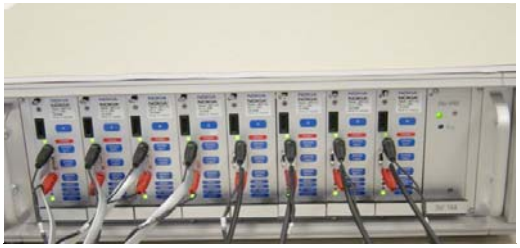
FPS-8 0080321	The flash prommer FPS-8 is used with DA-9. Power is supplied to FPS-8 from the universal power supply. Sales pack includes: - FPS-8 prommer (0750123) - FPS-8 SW activation & installation instructions - FPS-8 activation sheet (9359289) - ACF-8 power supply (0680032) - AXS-4 service cable (D9-D9) (0730090) - Printer cable (0730029)	
FLS-4S 0080543	POS flash prommer for US incl. ACF-8 power supply	
FPS-8C 0080396	8 x parallel flash prommer box The parallel flash prommer FPS-8C is used for example with DA-9 and JBV-1. Flash programming can be done to maximum of 8 phones parallel. FPS-8C consists of eight SF11C programming cards. SF11C card is functionally identical to FPS-8.	
PKD-1 0750018	Software security dongle for service SW	
JBT-9 0081490	Bluetooth test & interface box The JBT-9 test box is a generic device to perform Bluetooth Bit Error Rate testing and doing cordless FBUS connection via Bluetooth. An ACP-8x charger is needed for BER testing and AXS-4 cable in case of cordless testing interface usage. Sales package includes: - JBT-9 test box (0770336) - SMA stub antenna (066P056) - Installation and warranty information (9360613)	

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ACP-8U 0675196	Charger for JBT-9 Output: 5.3V DC, 500 mA; US Version	
DAU-9S 0730108	Serial data cable with modular connector. 9 pole Sub-D f <=> 8 pole modular The MBUS cable DAU-9S has a modular connector and is used for example between the PC's serial port and module jig MJ-2, SF-2 or JBV-1.	
XCS-4 0730178	Modular cable for e.g. connection between FPS-8 and SF-20. XCS-4 is a shielded (one specially shielded conductor) for flashing and service purposes.	
FLC-2 0730185	Power supply cable from FPS-8/C to SF-20. Banana connectors to 3,5 mm DC plug, 1,2 meters. FLC-2 is used to supply a controlled operating voltage.	

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PCS-1 0730012	Power cable to connect e.g. JBV-1 to FPS-8. 2 x Banana connectors to 5,5 mm DC plug.	
XRF-1 0730085	RF cable to connect e.g. module repair jig to RF measurement equipment. SMA to N-Connector ca. 610mm	
AXS-4 0730090	The AXS-4 D9-D9 service cable is used to connect two 9 pin D connectors e.g. between PC and FPS-8. Cable length is 2 meters.	

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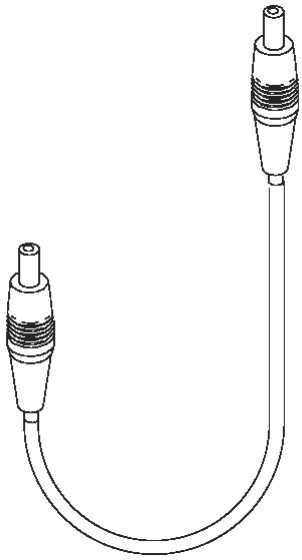
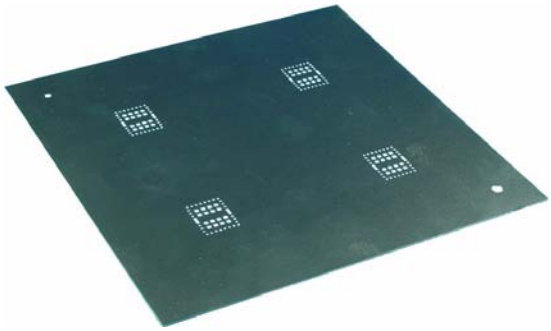
SCB-3 0730114	The DC cable SCB-3 is used to connect JBV-1 to the phone, for example.	
AXP-8 073F000	The parallel printer cable connects the parallel connector of the PC and the parallel input of the FPS-8.	
SRT-11 0770527	The camera removal tool SRT-11 is used to remove the camera from its locking connector.	
SES-3 4350383	SES-3 stencil is used with MJS-76 / 0770417 and it supports the PA component. SES-3 is made for reworking purposes used in central service level.	

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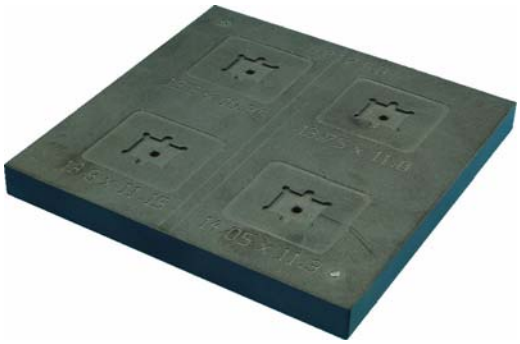
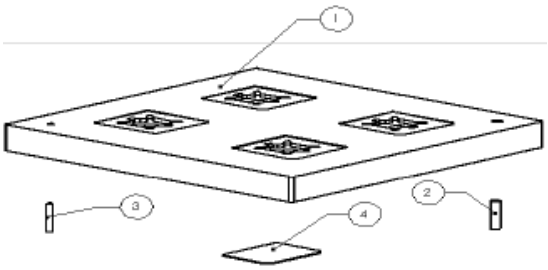
MJS-76

This tool is used in LGA type component reworking purposes in central service centers.

Parts list

Part number	Name of Part	Material code	Drawing number	Qty
1	Frame		SME5S910	1
2	Cylindrical pin 3x12	640b003		1
3	Cylindrical pin 3x12	640B012		1
4	Type label	9380601		1





SA-5: 0770664 and XRS-11 0730265

SA-5 is RF adapter for measurement and tuning purposes. It can be used with RF cable XRS-11.

SA-5

XRS-11:

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CA-28DS 0730319	Data cable for connections between FLS-4S and SF-8. CA-28DS is shielded USB connected cable for flashing purposes.	
SRT-6 0770431	Opening tool	

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